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ABSTRACT

This document contains three papers from a symposium on approaches to research in human resource development (HRD). "HRD, Feminism, and Adult Education: A Foundation for Collaborative Approaches to Research and Practice" (Yvonne M. Johnson) identifies common interests among HRD professionals, feminists, and practitioners in the field of adult education (AE) and calls upon researchers to embrace the diversity of all three perspectives. "Research Paradigms in Human Resource Development: Competing Modes of Inquiry" (Sujin Kim) analyzes positivism, interpretivism, and critical science from the following standpoints of their relative strengths and weaknesses as research paradigms in the HRD field and discusses the issue of what responsibilities researchers should assume to better serve the HRD community's needs. "Mixed Methods Use in HRD and AE" (Tonette S. Rocco, Linda Bliss, Sue Gallagher, Aixa Perex-Prado) analyzes the literature on HRD and AE to determine how mixed methods combining qualitative and quantitative approaches at different phases in the research process are approached in each field. The paper documents that most researchers who use mixed methods confine their discussions of research design and data interpretation to descriptions of technical-level decisions about methods and ignore the broader philosophical and political-level discussions that ultimately shape research agendas. All three papers include substantial bibliographies. (MN)

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HRD, Feminism, and Adult Education: A Foundation for Collaborative Approaches to Research and Practice

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HRD professionals, feminists and adult educators seek to improve the workplace for individuals but often operate in isolation rather than in partnership. Collaboration between the groups would serve to expand the literature bases of all three areas by providing a breadth of approaches to research and practice rather than narrow perspectives. This paper identifies common interests among HRD professionals, feminists and adult educators and opportunities for collaboration to advance the three areas.

Keywords: HRD, Feminism, Adult Education

HRD professionals, feminists and adult educators have common interests but seem to operate in different spheres of higher education, business communities and society. The groups often criticize each other for not addressing key issues that impact adult learning. For example, HRD practitioners may criticize adult educators for not considering business forces that shape HRD policy and decisions. Conversely, Feminists may criticize HRD for not addressing the needs of women in the workplace while adult educators may criticize HRD for catering to business goals without consideration of individual adult learners. All of the groups are concerned with adult learning in the workplace but use different frameworks to conduct research and practice.

Collaboration between HRD professionals, feminists, and adult educators would provide opportunities for increased understanding of the alternative views and expanded opportunities for partnering in research and practice. Partnerships would allow practitioners and academicians to cross conceptual boundaries and address adult learning issues that have traditionally been isolated to specific areas of HRD, feminism, or adult education rather than addressed across conceptual frameworks.

This paper will describe the areas of HRD, feminism, and adult education and identify common interests among the groups. Critiques of research in these three areas will also be reviewed to problemetize the current situation and suggest factors that may perpetuate the divisions between HRD, feminism and adult education. Links between the three literature bases will be identified to provide the foundation for collaborative efforts across the conceptual frameworks of HRD, feminism and adult education.

Problem Statement

As the HRD field emerges, critique of theoretical frameworks and practices is required to prevent reproduction of theory and practices that maintain the status quo (Bierema & Cseh, 2000). Limiting HRD to maintenance of the status quo perpetuates unequal, gender-based power relationships that exist in the U. S. society as a whole. The increased participation of women and other marginalized groups in the full-time workforce create opportunities and dynamics that companies cannot afford to overlook in the competitive global marketplace. Concurrently, the changing demographics of the U.S. workforce need to be addressed by HRD programs directed toward employee development.

HRD professionals manage multifaceted programs for individual, career and organizational development in the increasingly complex global marketplace (Gilley & Eggland, 1989). In spite of the complex and sensitive issues faced by HRD practitioners, research related to knowledge construction in the field of HRD has been limited in scope. Bierema and Cseh (2000) reviewed HRD research and concluded that prevalent workplace issues such as: "diversity, equality, power, discrimination, sexism, or racism" (p. 141), were not a primary focus in the HRD literature. They also argued that "despite more equal opportunity, women are still segregated into typically "female" careers, and the wage gap persists" (p. 141). Failure to explore prevalent HRD issues, such as diversity, sexism, and power relationships perpetuates the marginalization of groups, such as women who have limited power in the workplace (Johnson, 2001).

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Methodology and Propositions

The purpose of this paper is to review HRD, feminist and adult education research to identify topics, problems, and common interests among the fields. First, topics addressed in HRD research, feminist HRD research, and adult education research will be identified. Second, critiques of the three literature bases will be reviewed to problemetize the current situation and to identify factors that may perpetuate the divisions among the three fields. Third, HRD, feminist and adult education literature bases will be referenced to identify common interests and the foundation for collaborative efforts to bring together the disparate literature bases of the three fields.

Conceptual Framework

The author recognizes the wide spectrum of perspectives and theories that are encompassed by the fields of HRD, feminism and adult education. For the purpose of this paper, Gilley's (1989) model of HRD and Tisdell's (1998) model of feminist pedagogy will be used. Portions of the adult education literature base will also be referenced to complete the analysis. Due to the broad and inclusive scope of the HRD, feminist and adult education literature bases, it is beyond the scope of this paper to address all of the perspectives and theories of these three areas or to make broad generalizations about the three fields.

A Glimpse at the Field of HRD

HRD is gaining prominence due to increased global competition. Many business leaders seek to maximize employee performance through HRD programs. Gilley and Eggland (1989) described HRD as the integration of individual, career and organizational development. Individual development relates to acquiring or improving performance and skills for the current job while career development prepares an employee to develop skills for future jobs. Gilley and Eggland indicate that the OD component of HRD assists organizations with reaching the highest level of efficiency by creating "congruence among the organization's structure, culture, processes, and strategies within the human resource domain" (p. 15). The focus of all three components of HRD is individual performance that supports enhanced efficiency and productivity in the workplace.

Descriptions of the HRD field have been further expanded to acknowledge relationships between business leaders, organizational context and HRD programs. Walton (1999) indicates that chief executive officers and top-level managers are driving forces behind many HRD programs. Business executives often use "mainstream strategy literature and thinking...to prepare and position human resources in the competitive marketplace" and are not concerned whether HRD professionals are included in the program or policy development processes that directly impact HRD programs (p. 7). The exclusion of HRD professionals throughout development of key HRD policy decisions can negatively impact the success of programs since the business leaders who developed the policies may lack knowledge of how individuals learn. Clearly, this situation provides an opportunity for HRD to learn from the adult education community.

The impact of mission statements and strategic plans that guide organizations cannot be overlooked when HRD program goals are discussed. Swanson and Arnold (1997) assert that HRD practitioners who operate in organizations are responsible for developing programs that directly support the overall mission and goals of the organization to whom they are ultimately accountable. According to Swanson and Arnold, adult learning programs developed within the context of organizations are the juncture where adult learning becomes HRD since the "rules and requirements of the organization" govern the HRD programs (p. 650). Again, HRD and adult education interface in the workplace.

Overall, the focus of HRD research includes issues related to individual development, career development, organizational development, strategic HRD plans, and other issues related to bottom-line business results. Common HRD research topics identified by Bierema and Cseh (2000) include: "integrity, globalization, teams, employee development, learning on-the-job, new technologies, transfer, evaluation, organizational change, training effectiveness, partnership research, and roles in HRD" (p. 141). The foundation of most HRD programs and research has been individual performance improvement within an organizational context.

Critiques of HRD Research

The emphasis of HRD programs and research driven by performance-based outcomes and bottom-line business results have generated lively debates between HRD professionals, feminists and adult educators. Cunningham (1992) argues that "learning for earning" has become a primary focus of North American adult education due to the

emphasis on "efficient and effective production" (p. 180). She refers to HRD as "the hand-maiden of industry serving it obediently by training human capital via HRD" (p. 181). To address the deficiencies of HRD, Cunningham suggests critical pedagogy as a framework that can equalize power relationships in the workplace by connecting "biography with social structures and the transformation of that structure to allow for more equal power relationships" (p. 186).

Others criticize HRD research by noting topics that are conspicuous by their absence from the traditional HRD research literature. Bierema and Cseh (2000) indicated that the field of HRD "has not progressed to addressing undiscussables related to gender and diversity...this silence only contributes to a discourse that marginalizes women... HRD needs to address workplace discourse and how it silences, teaches and oppresses humans" (p. 145). Reviews of HRD research indicate that business goals are the primary focus and issues related to women and marginalized groups do not comprise a significant portion of the HRD literature base.

Others challenge the human capital focus. Hart (1995) argued that the dominant discourse on work centers on human capital and demographic changes, which in her view "leave no room for optimism" since the new workforce that includes more women and other marginalized is characterized as having deficiencies in critical skills (p. 101).

Critiques of HRD have argued against the focus on bottom-line business results and criticized the field's lack of attention to diversity, sexism, racism and other forms of oppression. In spite of HRD's focus on performance-based business goals, HRD programs are frequently cut when fiscal resources are limited.

HRD Issues that Warrant Further Exploration

The HRD challenge to maintain adequate resources for programs raises questions that may warrant further research. Does the vulnerability of HRD programs in the business arena suggest that HRD is a marginalized activity? In many organizations, HRD has been positioned separate from "core business" units on the organization charts. Does the marginal status of HRD cause the field to struggle to gain acceptance and credibility within the organizational context? Does the HRD struggle cause some practitioners and theorists to align HRD with business objectives to gain strength and power for the HRD field? Are different strategies required for HRD to equalize power relationships in the workplace? Can HRD learn from feminists and adult educators concerned with workplace learning? These questions could provide a foundation for partnerships between HRD, feminists, and adult educators aspiring to improve workplace learning.

Excerpts from the Feminist Voice

Feminists approach HRD research from a different perspective than HRD researchers. Gender is a primary research construct for feminists and females are the focus of research (Tisdell, 1998). At the fundamental level, feminists "seek economic, social, and political equality between the sexes" (Bierema & Cseh, 2000, p. 142). Common themes that occur in feminist research include: knowledge construction; voice; authority and positionality (Maher & Tetreault, 1994).

Tisdell (1998) explained that feminist research has been conducted under psychological, structural, and post-structural conceptual frameworks. The psychological framework focuses on characteristics of the individual, female learner. Voice, knowledge construction and safety of the learning environment are themes that are addressed under the psychological model. Structural frameworks explore power relationships, as well as, systems of oppression and privilege based upon gender, class, race, and others that impact learning and the daily lives of individuals. Structural models also analyze the "politics of knowledge production in what gets passed on as "official" knowledge in the curriculum and who determines it" (p. 142). Lastly, the post-structural framework deconstructs the "dominant discourse, to lay bare its underlying assumptions" related to individual learners, as well as social, political and other structures that impact daily life (p. 145). The psychological, structural and post-structural feminist conceptual frameworks have been used to conduct and critique HRD research and practices.

Psychological Feminist Research Framework

The feminist psychological framework focuses on individual, female learners. Belenky, Clinchy, Goldberger, and Tarule (1997, rev. ed) applied the feminist psychological model to expand the breadth and depth of research by analyzing knowledge construction strategies of women.

Belenky, et al. (1997) identified five *"Ways of Knowing" (WWK) including Silence, Constructed Knowledge* and others. The authors recognized that most of the women interviewed did not see themselves as constructors of knowledge or capable of intellectual thought. Interview data also indicated that women wanted to be accepted and

respected as valuable contributors to the educational process rather than "being oppressed or patronized" (p. 196). The Belenky, et al. (1997) research could be used to inform HRD practitioners concerned with creating a learning environment that supports women.

In summary, psychological feminist research emphasizes the importance of "psychological and developmental emancipation of women as individuals" (Tisdell, 1998, p. 142)." The focus of psychological feminist research is the individual rather than social or organizational structures.

Critiques of Psychological Feminist Research Framework

The psychological feminist framework has been criticized for emphasizing the individual woman and not addressing issues related to race, social class and structures (Tisdell, 1998). Goldberger (1996) explained that the original *WWK* conceptual framework was "culture-bound" by the authors who shared some common life experiences. She reframed the Belenky, et al. (1997, revised ed.) *WWK* as different strategies that comprise an individual's repertoire of methods of making meaning. Goldberger addressed issues related to society and ethnicity that were not addressed by the original *WWK* framework.

Swanson and Arnold (1997) criticized psychologically oriented research focused on the individual and argued that "those on the learning side (focusing on individuals) of the debate are not so naïve to think that organizational goals and performance are irrelevant to HRD" (p. 650). The message seems to be that individuals working in organizations are not functioning in isolation from the system within which they work but must work in partnership with the organization. Consequently, focus on the individual without acknowledging the organizational context is inadequate in Swanson and Arnold's view.

Critiques of the psychologically oriented feminist framework focus on the lack of attention to race, social class, and structures that impact individuals. HRD researchers have also suggested that individuals do not work in isolation from the organization structures in which they work; therefore, psychologically oriented research is not complete. The critiques of feminist psychological research could be addressed through collaboration between HRD professionals, feminists, and adult educators who could inform each other on structural, feminist, and educational issues.

Structural Feminist Framework

Structural feminist research deals with power relations and interlocking systems of oppression based on gender, race, class, age, and other factors that are not addressed under the psychological feminist model (Tisdell, 1998). According to the structural model, education is related to sociocultural values, which may differ based upon class, gender, and race. In addition, the absence of women of all races from curriculum reproduces the societal systems of oppression that encourage subservience of women in educational situations and society in general (Tisdell, 1993).

Kanter (1993) utilized the structural feminist framework to describe the roles of men and women within large, complex organization structures. Kanter placed the responsibility for employee behavior on the organization structure that governs policies and procedures rather than on the employees. According to Kanter (1993), options are not "equally available" in organizations due to "...self-perpetuating cycles and inescapable dilemmas posed by the contingencies of social life" (p. 10). Overall, structural feminist models focus on "social structures or systems of oppression such as patriarchy or capitalism" (Tisdell, 1998, p. 142).

Critiques of the Structural Feminist Research Framework

The structural feminist models analyze the impact of structures on learning and knowledge construction. Due to a lack of emphasis on individuals, structural feminist models have received criticism. Structural feminist models prioritize gender but do not account for the individual's ability to have some control over one's decisions and actions within the organizational and social structures (Tisdell, 1998). Structural models also emphasize the importance of challenging power relationships but do not account for one's positionality within the organizational and social structures.

Poststructural/postmodernist Feminist Research Framework

Poststructural feminist research analyzes the interrelationships between individuals, power structures, social structures, positionality, social class, race, gender, and other factors. "Some authors use the term poststructural while others use postmodernism; for the purpose of this paper the terms will be used interchangeably" (Tisdell, 1998, p.

145). Tisdell (1998) explained the four primary elements of poststructural feminist conceptual framework. First, poststructural feminists "argue for the significance of gender with other structural systems of privilege and oppression...race, class, sexual orientation." Second, postructural feminism "problematizes the notion of "Truth." Third, poststructural feminists acknowledge the concept of "constantly shifting identity" and the idea that there is "not one Truth." Lastly, poststructural feminism "deconstructs categories and binary opposites such as white-black; heterosexual-homosexual; man-woman; and theory-practice...and rational-affective" (pp. 146-147).

Other authors have explained knowledge construction and power relationships addressed by the postmodernist models. Merriam and Caffarella (1999) explained that "postmodernism criticizes the modern conception of knowledge as a set of underlying principles that can explain behavior or phenomena across individuals or settings" (p. 349). Overall, the post-structural framework embraces multiple realities and multiple truths, which is different from a positivist framework that searches for one truth.

Goldberger (1996) utilized a poststructural feminist framework to expand the original *WWK* (Belenky, et al., 1997, revised ed.) research by interviewing bicultural women and men. According to Goldberger (1996), marginalized bicultural people are those who live "at the juncture between two cultures and can lay a claim to belonging to both cultures, either by being of mixed racial heritage or born in one culture and raised in a second" (Goldberger, p. 365).

Goldberger (1996) used information obtained during bicultural interviews to expand the *WWK silence(d)* concept (Belenky, et al., 1997, rev. ed.) by explaining the interrelationships between individual learners, political structures and social structure information. The multifaceted nature of the *silence(d) WWK* was highlighted during interviews with Native Americans and other indigenous people who explained the importance of understanding "when not to speak" in accordance with their cultural norms. Goldberger (1996) suggested that silence is not valued in the United States (U. S.) as it is valued in some other cultures, which may be linked to Triandis's (1989) explanation of the importance of silence in cultures that value social interconnections rather than individualism (Markus & Kitayama, 1991). The devaluation of silence in the U. S. can lead to misinterpretations of silence as an effective strategy for making meaning.

The *constructed knowledge WWK* (Belenky, et al., 1997, rev. ed.) was also expanded by Goldberger (1996). The bicultural interviews lead Goldberger to understand *constructed knowledge* as a way of making meaning that was flexible, contextual, relational, ethical and impacted by political and cultural forces. Goldberger explained that *constructed knowledge* involves the ability to assess situations and utilize the most effective strategy for making meaning based upon facts and circumstances of the context. The new description of *constructed knowledge* reflects the importance of social structures and political forces that were not addressed by the Belenky, et al. (1997, rev. ed.) original definition that focused on individuals.

Hayes (2000) also used a post-structural framework to explain women's learning, diversity and other workplace issues. Women were often hired for part-time positions that have less benefits and fewer training opportunities than men receive since many organizations still view women as temporary workers or the second wage-earner in the family. Hayes also explained some workplace strategies that catapult men to the top ranks of organizations may not be effective for women because these behaviors "conflict with the (concept of) feminine behavior" (p. 36). Further, Hayes explained the "subtle biases" of career counseling models that serve to keep women in lower status, less powerful professional positions.

Post-structural feminist research also addresses the issue of "positionality." The positionality of the instructor and of the students are considered key elements in classroom and other learning environments. For example, Tisdell (1993) indicated that students interact differently based upon the gender, race, social class, and other positional characteristics of the instructor. Workplace learning that involves employees, trainers, and managers is also impacted by the positionality of those involved in the process.

Overall, post-structural feminist research addresses a wide spectrum of interrelated, complex factors and accounts for issues raised by both the psychological and structural feminist paradigms. In addition, post-structural feminist research addresses issues such as positionality and multiculturalism that are prevalent in the global community.

Critiques of Post-structural/Postmodernist Feminist Framework

The poststructural feminist perspectives have caused controversial debates. Tisdell (1998) references feminist scholars, such as Hartsock (1987) and DiStefano (1990) who have raised questions and are leery of poststructural feminist ideas. DiStefano challenges poststructural feminists by questioning why "just at the moment in Western history when previously silenced populations have begun to speak for themselves and on behalf of their

subjectivities, that the concept of the subject and the possibility of discovering/ creating a liberating truth become suspect?" (as cited in Tisdell, 1998, p. 145).

Post-structural researchers could inform HRD professionals and feminists who focus on individuals or structures but do not integrate individuals, multiculturalism, or positionality with the structures. In general, the post-structural ideas have generated discourse and research that expands and critiques several literature bases.

A View through the Adult Education Lens

Adult educators, including Mezirow and Knowles, have approached adult education from a psychological viewpoint. Mezirow (1991, 1996) described a learner-focused transformative process of adult learning and explained that learners interpret experiences through "meaning perspectives" that Mezirow defines as "structures of assumptions within which past experience assimilates and transforms new experience" (1996, p. 42). Mezirow's focus on transformation has some similarities to the Belenky, et al. (1997) *WWK*; however, Belenky, et al. focused on affective and rational knowing and Mezirow favored rational knowing (Tisdell, 1998).

Knowles, Holton, & Swanson (1998) also utilized a psychological framework and explained the concept of andragogy in adult learning contexts. Andragogy involves a partnership between the adult learner and the facilitator to maximize the effectiveness of the educational experience. Key assumptions of the andragogical model include:

> "Adults need to know why they need to learn something before undertaking to learn it...adults come into the educational activity with both a greater volume and different quality of experience from youths...adults are life-centered...in their orientation to learning; and the most potent motivators are internal pressures...(pp. 62-63)."

The andragogical principles bear resemblance to the focus on the individual emphasized by Belenky, et al.; however, the *WWK* focuses on gender and andragogy is non-gender specific (Tisdell, 1998). Andragogy also plays a key role in effective HRD programs focused on individual development within the organizational context.

Freire (1993) utilized an emancipatory structural approach to adult education. Freire's work supported problem-posing education rather than the "banking concept," that involves the teacher providing deposits of information to the students who memorize the information without critical evaluation. Freire suggested that the "banking-concept" perpetuated systems of oppression in society by encouraging the oppressed to assimilate within the existing power structures that support domination by the oppressors. Freire viewed the problem-posing education model as a potential means of liberation of the oppressed, which could lead to transformation of power structures. The "problem posing" model could be used to inform HRD professionals and feminists who strive to develop an equitable work environment that maximizes satisfaction and opportunities for all employees. HRD is not limited to working within organization structures that oppress individual employees.

Collins (1995) referenced post-modernist issues in a passionate essay and highlighted problems with the professionalization of certain adult education efforts. In general, Collins disagreed with the alignment of HRD and "corporate ethos and the modern adult education practice" that in his view inhibit "men and women realizing the potential which resides in the collective competence they already possess" (pp. 87-88).

Adult educators view adult learning from various perspectives. Some adult educators focus on the needs and experiences of individual learners. Others focus on oppressive social structures that perpetuate unequal power relationships. In spite of the divergent views, common themes have been identified among the HRD, feminist and adult education literature bases.

Critiques of Adult Education Frameworks

Merriam and Caffarella (1999) summarize critiques of Knowles' and Mezirow's ideas. According to Merriam and Caffarella, "Knowles' reliance on humanistic psychology results in a picture of the individual learner as one who is autonomous, free and growth oriented. There is little or no awareness that the person is socially situated, and to some extent, the product of sociohistorical and cultural context of the times..." (p. 275). Critics of Mezirow's perspective transformation model indicate that "the extent to which the theory takes context into account; whether the theory relies too heavily on rationality; the place of social action; and the educator's role in facilitating transformative learning" are unresolved issues related to the model (p. 333). Critics of Knowles and Mezirow suggest that the focus on individuals and lack of focus on sociohistorical, cultural factors, and other issues are limitations of the models. These critiques are similar to criticisms of the feminist psychological framework.

Merriam and Caffarella (1999) summarized Ewert's (1982) critiques of Freire's ideas. According to Ewert: "Freire has been criticized by many for not coming to grips with the ethical implications of raising people's levels of consciousness through discussion of community problems. Few would now deny that defining problems in

structural terms is a political process...The responsibility for unleashing a process that can exceed controllable limits rests with the adult educator" (as cited in Merriam & Caffarella, 1999, p. 384).

Merriam and Caffarella (1999) argue that critical theory, such as the post-structural framework, is difficult to understand due to the complexity of the writings and that critical theory is difficult to operationalize for practice. The strength of critical theory is in its deconstruction of dominant structures of oppression; however, a weakness of the critical framework is the lack of operational strategies that can be implemented to improve the systems it critiques.

Opportunities for Collaboration and Implications for Future Research

HRD professionals, feminists and adult educators often operate in different spheres of higher education, business communities, and society; however, common interests between the fields have been identified. All three fields research issues related to individuals, organizations, and society but have criticized the focus, outcomes and motives of the other fields. Why do the three fields remain separate in spite of the fact that there are significant common interests between the fields? Have stereotypes and barriers developed between the fields of HRD, feminism, and adult education that inhibit research and practice across the conceptual frameworks of the three fields?

HRD professionals, feminists, and adult educators all strive to improve conditions in the workplace. The three fields also recognize the individual employee as a critical component of organizations and society. To improve the workplace, HRD seeks "congruence among the organization's structure, culture, processes and strategies" (Gilley & Eggland, 1989, p. 15) through organizational development interventions. Congruence as described by HRD could not be achieved without addressing issues related to gender equity, diversity, adult learning theory, and society that are raised by feminists and adult educators. Clearly, the fields of HRD, feminism, and adult education have common interests that provide a foundation for partnerships in research and practice.

Research provides some promise for bridging the disparate literature bases of HRD and adult education. Workplace learning projects and adult education strategies have linked the fields of HRD and adult education. Bierema (1997) argues that "adult educators and HRD professionals are uniquely equipped to research, design, and implement new models of workplace development" (p. 657). Swanson and Arnold (1997) also sought to reconcile differences between the fields of HRD and adult education by identifying common interests. The efforts to link adult education and HRD could be expanded to include links with feminist and critical adult education research bases.

Critical theorists, including feminists and adult educators, have problemetized workplace issues and criticized HRD for not effectively addressing issues such as sexism, diversity, and power relationships (Bierema & Cseh, 2000). Others have called for a "new formulation of work and vocation" (Cunningham, 1996, p. 157). The critical perspectives have identified key issues that negatively impact the workplace and HRD efforts. HRD professionals have much to learn from the critical perspectives.

In conclusion, HRD professionals, feminists, and adult educators seek to improve the workplace; however, the fields use different conceptual frameworks to address workplace issues. Continuation of the divisions between HRD professionals, feminists, and adult educators perpetuates the complex workplace problems the fields seek to resolve since narrow research perspectives are inadequate when addressing the complexities of the modern workplace. It is time to develop partnerships between HRD professionals, feminists, and adult educators to share information and build on common interests. The workplace provides many opportunities for partnerships between HRD professionals, feminists and adult educators to research and advance all three fields. Embracing the diversity of the HRD, feminist and adult education perspectives may be the first step to building collaborative efforts that can inform and advance the three areas.

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Research Paradigms in Human Resource Development: Competing Modes of Inquiry

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The debate over whether a dominant paradigm is appropriate for the rapidly evolving Human Resource Development (HRD) has resulted in significant discord among researchers within the field. This critical issue paper compares and contrasts three of the most widely utilized research methodologies in the field, with respect to their strengths and weaknesses. It argues that in many cases, the taxonomy of positivistic research should be employed as the central methodology in investigating HRD issues.

Keywords: Human Resource Development Research, Positivism, Research Methodologies

The Longman dictionary (1995) defines research as, "the studious study of a subject, that is intended to discover new facts or test new ideas; the activity of finding information about something that one is interested in or need to know about." (p.1205) As the definition implies, in the strenuous journey to knowledge, researcher and scholars have developed and employed various research methodologies to guide them through the right course of knowledge seeking. From the research perspective of Human Resource Development (HRD), three major research methodologies, positivism, interpretivism, and critical science, have been widely discussed and utilized within the discipline.

Problem Statement and Research Questions

The debate over whether a single research paradigm should be employed as a common standard in Human Resource Development (HRD) research has caused persistent and vexing discord among researchers within the field (Marsick, 1990, Ruona, 2000; Watkins, 1991). Although such disagreement can provide the basis for healthy scrutiny for advancing theory and practice in the field, the lack of common methodology in the HRD literature frequently results in confusion and tension with respect to findings that emerge from ongoing research endeavors in the field (Kuchinke, 2000; Lynham, 2000; McGoldbrick, Stewart, & Watson, 2001). Some argue in favor of widely divergent HRD research methodologies since there is no general research framework to examine and measure the multifaceted, transient, and contingent HRD issues that affect modern organizations (McGoldbrick, Stewart, & Watson, 2001). However, because the applied realm of HRD is performance and outcome-oriented, the taxonomy of positivism can best serve these ends through its ability to elicit explanation, control, and prediction.

In the hopes of reducing some of the contention in the field, this critical issue paper explores the advantages and disadvantages of positivistic methodology and argues in favor of utilizing it as the principal mode of inquiry in the field. However, it is also suggested that the use of positivism should not be mutually exclusive with respect to other existing HRD research methodologies. Both researchers and practitioners should be mindful of the benefits that can flow from the mix and application of tools provided by the other paradigms as a means of increasing the utility of research.

The central research questions guiding this critical issue analysis paper are as follows:

1) Which research methodology is best suited for HRD research?
2) What are the strengths and weaknesses of each research paradigm?
3) What responsibilities should researchers assume to better serve the needs of HRD community?

Methodology

Based on the examination of literature review, this critical issue paper provides an analysis of the three widely utilized research methodologies, positivism, interpretivism, and critical science, in the HRD field. Particularly, the paradigm of positivism, which has been a central mode in social science research, is compared to and weighed against the other two methodologies with an emphasis of their philosophical origins, assumptions, concepts, and HRD implications.

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Conceptual Framework for Three Research Methodologies

Positivism is based on the assumption that there are universal laws that govern social events, and uncovering these laws enables researchers to describe, predict, and control social phenomena (Wardlow, 1989). Interpretive research, in contrast, seeks to understand values, beliefs, and meanings of social phenomena, thereby obtaining *verstehen* (a deep and sympathetic understanding) of human cultural activities and experiences (Smith & Heshusius, 1986). Critical science seeks to explain social inequities, through which individuals can take actions to change injustices (Comstock, 1982). The three approaches take distinctively different epistemological positions regarding theoretical foundations, assumptions, and purposes while producing competing modes of inquiry.

Historical and Philosophical Origins of Positivism

The discussions on the positivistic paradigm of research originated in the nineteenth century with an attempt to apply the methodology used by the natural sciences into social phenomena (Smith, 1983). In 1822, the French philosopher Auguste Comte first created the term, "sociologie" and further classified social interactions as physical science-like phenomena in order to investigate and find their universally governing rules (Babbie, 1993). Prior to this time, religious taxonomies were prevalent in investigating and explaining social phenomena, and Comte attempted to replace religious beliefs with scientific objectivity and empirical inquiry by arguing that the human world can be detached and analyzed in an objective way. Comte's positive philosophy postulated three stages of history. First, a "theological stage," emphasized a monotheistic God and predominated throughout the world until about 1300. Second, a "metaphysical stage " replaced the concept of God with philosophical notions during the next five hundred years. Last, Comte's final stage was the era of positivism, in which knowledge was based on scientific objectivity and observation through the five senses rather than subjective beliefs. This revolutionary view of the social world as science-like phenomena with empirical investigation formed much of the fundamental driving force for the development of the positivistic approach (Babbie, 1993).

Before examining the major assumptions of positivism, it is necessary to elucidate the philosophical influences of scientific realism in positivism as the approach was rooted in the idea of scientific realism (Smith & Heshusius, 1986). The paradigm of scientific realism asserts that the kinds of things which exist, and what they are like, are independent of us and the way in which we discover them (Routledge Encyclopedia of Philosophy, 1998). In examining reality, scientific realism further delineates the concept of subject-object dualism; an ontological question of "what is" can be kept apart from an epistemological question about how one comes to know "what is" (Smith, 1983). Positivism is essentially derived from Comte's philosophical foundations that social reality exists independent of people and can be objectively investigated by employing valid and reliable measurements.

Major Assumptions of Positivism

The assumptions reflected in positivistic research are based on the notion of a mind-independent reality (Popkewitz, 1980). Researchers employing positivistic research inherently recognize the following as primary assumptions that are intrinsic to the positivistic mode of inquiry (Wardlow, 1989, p.3):

1. The physical world and social events are analogous in that one can study social phenomena as they do physical phenomena.
2. Theory is universal and sets of principles and inferences can describe human behavior and phenomena across individuals and settings.
3. In examining social events, researchers adhere to subject-object dualism in that they stand apart from their research subjects and treat them as having an independent existence.
4. There is a need to formalize knowledge using theories and variables that are operationally distinct from each other and defined accordingly.
5. Hypotheses about principles of theories are tested by the quantification of observations and by the use of statistical analyses.

Essential Concepts Reflected in Positivism

Positivism asserts that knowledge and truth are questions of correspondence in that they relate to an external referent reality (Smith, 1993). This correspondence theory of truth stipulates that the source of truth is in reality; therefore, a statement is proved to be true if it agrees with an independently existing reality and false if it does not. For example, if two or more statements regarding the same external referent reality compete with one another, then

researchers must make a decision to accept one and reject the other, or even to reject both in favor of another alternative (Smith, 1983). Furthermore, researchers should employ empirical methods for the process of verification because these methods are considered objective and do not influence what is being investigated. In the process of investigation, researchers should express themselves in value-neutral, scientific language in order to move beyond ordinary and subjective descriptions, thereby resulting in universal and accurate statements and laws about the world. In doing so, knowledge attained about the independent reality can be accepted by reasonable people (Smith, 1983).

In the positivistic tradition, empirical methods are so essential that true or genuine knowledge is regarded as strongly tied to the application of the proper procedures (Babbie, 1993; Walker & Evers, 1999). Empirical methods specify how the rational structure of scientific investigations is formulated and tested. For example, researchers generally begin by noticing a new pattern or inconsistency with established theories and posing the preliminary finding as a problem to be investigated. After further exploration, researchers propose a hypothesis in which they deduce predictions. As a rule, they test the predictions and present the hypothesis as genuine knowledge if it is confirmed as valid. If the hypothesis is rejected, researchers usually alter the previous hypothesis, or develop another, and repeat the procedure. This process is self-corrective and by examining incorrect hypotheses, researchers narrow the search for a correct one (Borg & Gall, 1996). Such methodologically generated knowledge, as it is thought to constitute an accurate description of reality, becomes accepted as truth through this rigorous empirical verification process.

One of the major goals of research using positivism in HRD settings is to obtain valid and reliable knowledge as a set of universal principles that can explain, predict, and control human behaviors across individuals and organizations. In the positivist's perspective, validity means that findings are accurate statements about the world as it is without researcher's involvement, and knowledge is a matter of replication (Walker & Evans, 1999). If a particular instrument or a technique is applied repeatedly to the phenomenon of interest, it would yield a similar, if not the same, result over time. Therefore, what is discovered through valid and reliable instruments and techniques is considered public knowledge because others can replicate the findings by employing the same instruments and methods while reducing the potential consequences stemming from researchers' personal values and biases (Smith, 1983).

Competing Views of Positivism: Interpretivism and Critical Science

HRD researchers employing interpretivism often question the positivist's belief of the mind-independent reality. To interpretive researchers, reality (at least organizational and social realities) is something constructed with the individual mind as a product of theorizing, and this individual theorizing itself shapes and affects reality; there is no mind-independent reality to correspond with hypotheses to serve as an external referent point on their acceptability (Walker & Evers, 1999). Knowledge is then multiple sets of interpretations that are part of the social and cultural context in which it occurs. Consequently, there should be an openness to the understanding of people whom researchers study and tentativeness in the way researchers hold or apply their conceptions of those being studied (Giorgi, 1997; Husen, 1999; van Manen, 1998).

Yet, the very contextual and subjective nature of interpretative research findings can be a concern for HRD researchers who seek to generalize the results to different organizational and educational settings: what is true in one situation or context may not be true for another. Conducting interpretative research can also be costly due to extended research time. For example, to conduct an ethnographic study of a supervisor-employee behavior of a particular immigrant group, a great deal of time is needed to observe, describe, and understand the complex and value-laden immigrant's business culture and their idiosyncratic way of interactions. A replication of the original research as well as reaching inter-subjective agreement on the findings can be an arduous and time-consuming task.

In interpretive research, as researchers' views are acknowledged and often reflected in the research process, their personal subjectivity may inherently affect the soundness of research findings (Babbie, 1993). Therefore, it is a crucial yet difficult task for interpretive researchers to bracket their preexisting ideas of the phenomena and further assume a moral responsibility to accurately represent subjects and contexts. In addition to the difficulty of achieving this goal, analyzing and articulating complex human phenomena are rigorous tasks that require years of training and research experience. It is thus imperative that HRD researchers posses adequate skills and observational techniques to conduct interpretive research as well as a sense of moral responsibility.

Critical scientists go one step further in their philosophical opposition to the value-neutrality of positivism by arguing that researchers should take a stance and share responsibility for social changes (Comstock, 1982). Critical scientists maintain that the positivistic tradition cannot capture the critical roles of values in knowledge that are needed to improve human conditions (Comstock, 1982). They also point out that the positivistic tradition generally

neglects the realities of power, ideological beliefs, and social inequities frequently manifested in HRD research (Rettig, Tam, & Yellowthunder, 1995). For example, critical scientists can question the validity of popular HRD beliefs representing the efficacy of employee empowerment in organizations. They can attack the notion by questioning whether companies genuinely care about empowering employees to promote their potentials with humanistic motives or if they simply give out some fraction of their power to tantalize employees while holding tight control of their stakes. In criticizing the notion of "employee empowerment," critical scientists may argue that "empowerment," "employee voice," and "open communication" can be simply the reintroduction of a power struggle between management and employees, in which management grants a small faction of power to the employees. The employees, viewed as oppressed, are not truly emancipating themselves; rather, they are merely disillusioned by the management's empowering tactics whose aim is to solidify control over the employees. In addition, the organizational setting may not be a safe place for the employees to speak out their experiences or opinions due to the fear of coercion and/or a sense of vulnerability of revealing too much in public.

The major disadvantage of employing critical science in HRD research is that the researcher's involvement, interaction, and activities during the research process are substantially political as well as time intensive in that the approach often fails to facilitate scholarly writing (Fay, 1987). The critical science approach also advocates a process of research that yields social change rather than a product of research that is closely linked to knowledge generation and subsequent academic publication. Thus, while emancipatory knowledge can be produced by employing critical science, it might not be readily transformed into academic publication due to the lack of understanding and acceptance of the approach among scholars and the time-consuming nature of the research process (Rettig, Tam, & Yellowthunder, 1995).

Finally, as critical science primarily focuses on issues regarding groups of individuals, it is practically impossible to conduct critical science research without a team effort (Rettig, Tam, & Yellowthunder, 1995). As the success of critical research heavily relies on the continuous commitment of the groups for a substantial amount of time, soliciting team efforts to carry out research can be a difficult and exhaustive process that critical scientists must cope with. The uncertainty of research outcomes and finding source for funding are often problematic in critical science as well (Fay, 1987).

Reasons for the Prevalence of Positivism in the Research Community

In light of positivism's relation to business and educational institutions, certain goals in the field of HRD are highly compatible with positivistic applications. Employees' performance improvement after HRD interventions, effects of training programs on levels of organizational commitment, and minimal competency testing for job applicants are a few of HRD examples that rely on measurable and generalizable instruments of the positivistic approach. As a result, these HRD goals align well with positivism due to their implicit orientation towards prediction and control. Since positivistic knowledge seeks to find how change in one variable will produce change in another, also known as causal relationships, it facilitates the attempt to get more output for one's input that is the practical concern of HRD practitioners (Swanson, 1995).

The correlational design of positivism can be useful in studying issues relevant to the HRD field as its principal advantage is to permit one to analyze the relationships among a large number of variables in a single study (Fanslow, 1989). In HRD settings, there are often situations in which several variables are related to a particular pattern of behavior. When a researcher wants to investigate the factors correlated with the level of organizational commitment, there are more likely to be multiple variables affecting one's commitment, such as education and income levels, supervisor-subordinate interactions, and perceived equity regarding pay and treatment (Brett, Cron, & Slocum, 1995). By employing the correlational design, researchers can determine whether there are relationships between these variables and the level of organizational commitment, control for potential confounding factors, and further measure the directions and degrees of these relationships. The correlational design is thus an invaluable research tool in HRD as it allows researchers to analyze the relationships among multiple variables, either individually or in combination, by identifying the direction and degree of associations among them (Pirsig, 1997; Borg & Gall, 1996).

There are several issues to be addressed prior to conducting research in HRD. One of the crucial questions that HRD researchers should ask prior to initiating their investigation is whether the findings are genuinely relevant and likely to be beneficial to participating organization members as well as the HRD field. In other words, researchers and practitioners should be concerned with the potential utility of research findings, with respect to tangible, positive, long-term returns for organizations and contribution of knowledge advance to the research community (Alan, 1997; Scheirer & Rezmovic, 1983; Swanson, 1992). The research must be also designed to obtain findings that can be generalized and applied beyond the situation in which the study was initially carried out. Employing the

positivistic approach in HRD settings can be then recommended for its strong tendency to produce applicable knowledge that is externally valid.

Another important aspect of positivism in HRD research is that the approach facilitates the refinement, and even negation, of existing theories by challenging and questioning them for more refined applications rather than dwelling on the antecedents of previous research (Moser, Mulder, & Trout, 1998). Moser and colleagues (1998) pointed out that researchers can sometimes become the victims of dogmatism by failing to recognize their fallibility. In positivism, research hypotheses are generally deduced from findings of established theories, and subsequent findings contribute and extend the general body of knowledge. In the process of inquiry, researchers might capture the inconsistency between the existing theories and their own hypotheses and thus challenge the previously accepted ideas to resolve disagreements. Factors that have not been adequately addressed in previous research can be further pursued. The approach then promotes a healthy and rigorous measure of cultivating knowledge by raising questions and making investigators aware of the validity of their hypotheses (Pirsig, 1997).

Empirically grounded methods in positivism also serve as a "reality check" to reduce researchers' biases and values which can potentially contaminate the research process and subsequent discoveries (Smith, 1993). As interpretive researchers point out, perception, experience, and socio-cultural background affect how each individual sees the world in everyday situations. At the level of everyday discourse and experience, it is difficult for researchers, as individuals embracing all socio-cultural aspects in formulating their views, to discard their personal values and beliefs in conducting research. Instead of denying the presence of these biases, positivistic researchers call upon proven empirical methods in an attempt to minimize the distorting effects of their subjectivity in investigation. The empirical procedures are available to the inquirer prior to engaging in the process of inquiry and thus tend to be neutral and independent of the process (Smith & Heshusius, 1986). In addition, the knowledge produced through these procedures can and should be replicated by anyone who adheres to the same method. The positivistic mode of inquiry thus provides a self-corrective mechanism that checks the credibility of data and minimizes the distorting effect of personal subjectivity on the generation of knowledge.

Critical scientists criticize positivistic researchers on the grounds that they lack or even dismiss the realities of value-laden policy making processes embedded in society. Yet, impacts of research findings on policy implications have been increasingly addressed by the positivistic arena by utilizing evaluation research (Babbie, 1993). The purpose of evaluation research is to measure the impact of policy interventions, such as new training methods, innovation in workplace technology, and a wide variety of HRD programs to ensure that there is a nexus between research findings and practical applications (Alan, 1997). While in critical science, research serves to produce emancipatory knowledge which empowers individuals to take action to correct injustice prevalent in the system, an empirically-grounded positivism, the goal of evaluation research is practical interest to assess the effectiveness and efficiency of interventions. The current expansion of evaluation research among positivistic researchers reflects their increasing awareness to ensure feasibility and utility of interventions formulated from research in the applied domains of HRD (Borg & Gall, 1996).

Discussion and Conclusion

Positivism has been a dominant mode of inquiry in numerous research arenas of social science for over a century (Wardlow, 1989). Since Comte's utilization of positivism in social science in the nineteenth century, there was a major progress in social and educational research at universities and research institutions with the refinement of the methodology and statistical analyses. As a result, positivism became the dominant research methodology and its prevailing methods and techniques were utilized by cross-disciplinary researchers until the mid-1960s (Husen, 1999). During the social movements in the sixties, critics of positivism began to doubt its merits and legitimacy (Banks, 1998; Code, 1991). Critical scientists argued that institutionalized theories and paradigms considered neutral often favor the mainstream population and consequently neglect marginalized communities. Likewise, interpretive researchers criticized positivism by stressing that what is needed in the multi-ethnic society is respect and understanding of others' unique socio-cultural contexts (Banks, 1998). As a result of this conflict among researchers, the present situation in the research community is a standoff among the three approaches, often manifested as a heated debate between "hard" and "soft" or "quantitative" or "qualitative."(Bredo & Feinberg, 1982; Code, 1991).

With respect to the current debate over research paradigms, this paper has examined and assessed the three most widely used research methodologies in the HRD discipline: Positivism, Interpretivism and Critical Science. In doing so, it has found that each approach has its own unique advantages that promulgate valuable knowledge and augment the literature in the science of HRD. However, it has been also demonstrated that the relationships among the three approaches are generally not synergistic in nature, as the underlying theoretical and epistemological rationale of

each is frequently at odds with those of the others. Indeed, as each of these paradigms has their own set of advocates, the consequences have been a fractionalization among researchers in the field, disagreement over the interpretations of findings and a lack of unity with respect to the direction that future research should pursue. The solution to the dogmatism that has created this unfortunate state of affairs is not easily redressed through compromise, as the construction of approaches that attempts to formulate methods based on a synthesis of the approaches are vulnerable to discounting the inherent advantages of each. Yet, it should also be noted that the three methodologies are not necessarily incompatible within the HRD domain, and both the circumstances and question of study to be addressed should be viewed as mitigating factors in deciding which methodology should be applied.

Nevertheless, after examining the merits and shortcomings of each, this endeavor has led to the conclusion that the HRD field would greatly benefit by adopting an emphasis of positivism as the principal research approach. Because of the fundamental premises that underlie positivism, specifically the requirements that the development and testing of hypotheses be conducted in a manner that are both quantifiable and able to be replicated, the subsequent findings would be less prone to error introduced by investigator subjectivity and hence more widely accepted. Moreover, the empirical procedures used in the positivistic tradition are best able to assess and develop practical organizational interventions relative to the outcomes produced by the interpretive and critical science paradigms. This is not to say that the shortcomings of positivism as articulated by proponents of the interpretive and critical science taxonomies should be ignored; in fact, for the positivistic approach to be truly valuable, its potential disadvantages must be recognized and addressed.

One caveat that should be clearly noted is that while this paper strongly advocates the adoption of positivism as the central research approach in the HRD field, it does not contend that the paradigms of interpretivism and critical science should be abandoned. Both provide the field with substantial value, the former through its attention to understanding the individual experience and the latter to encouraging emancipation and self-development. The incorporation of both of these methodologies within the HRD domain would allow the field to be more holistic in its understanding and conceptualization of human behavior and development. On the other hand, to equate these paradigms as research methodologies on parity with positivism would subjugate the HRD field to the continued discord that aptly defines its current state. To this end, a movement towards an emphasis on positivistic research would significantly improve the field as a whole.

Implications for HRD: Establishing a Methodological Framework for the Advancement of HRD Theory and Practice.

As HRD is a young yet burgeoning field, the ability of researchers to advance knowledge and contribute research to the general business community is essential. More than a few scholars have recognized that there is an integrated relationship between scientific research and HRD practices (Alan, 1997; Kling, 1995; Scheirer & Rezmovic, 1983; Schneider & Konz, 1989; Swanson, 1992). Because research is the fundamental cornerstone on which sound theory becomes transformed into effective organizational practice, and further, the element on which HRD derives its inter-disciplinary credibility, it is of the utmost importance that the methodological foundation on which the research is based is both sound and rigorous. Increasing the emphasis on using positivistic research techniques is then both a viable and necessary means for HRD to achieve the dual goals of developing effective practical business practices and establishing itself as a strategically essential academic business domain. The established and widely accepted techniques of positivism have proven to be significant conduits to meeting these ends in other business disciplines, and the extension of the same criteria and standards to HRD can thus substantially forward these aims. By placing increased value on studies which use positivistic methodology in carrying out future HRD research, encouragement of such studies through the publication of those research endeavors in the academic literature, and dissemination of the findings in the form of strategic business interventions, the field would benefit from a unification of such standards.

At the same time, HRD research should continue to value those works that utilize interpretive and critical science approaches. If anything, the use of these approaches differentiates HRD from traditional business research, and their contributions enrich the understanding of cultural and individual perspectives and address important areas that are often overlooked in these domains when positivistic research is exclusively used as an instrument of research. HRD should continue to forward and encourage the use of such methodologies. The essential change that is advocated in this work is for a shift in the prioritization of these methodologies, with the positivistic framework emerging as the principal research paradigm of choice within the field. Realistically, such change will not be quick or forthcoming, as many in the field strongly hold viewpoints that disagree with this perspective. The important point is that vigorous debate should be encouraged with some consensus realized from ensuing dialogue. Such

agreement would act to strengthen the field and enhance the future impact of HRD research output with respect to both businesses and the community which are the true beneficiaries from such work.

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Mixed methods use in HRD and AE

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Mixed methods combine qualitative and quantitative approaches at different phases in the research process such as conceptualization, sample, data collection, data analysis and inference while mixed model designs combine these approaches across all phases (Tashakkori & Teddlie, 1998). This paper explores how mixed methods are approached in HRD and adult education. Little explicit discussion of research design decision-making or theoretical support for mixing design components was found in the examples used in this paper.

Key words: Mixed methods, Research Design, Qualitative and Quantitative Studies

This paper provides a discussion of the ways in which mixed methods are approached in HRD and adult education (AE). Mixed methods combine qualitative and quantitative approaches at different phases in the research process such as conceptualization, sample, data collection, data analysis and inference while mixed model designs combine these approaches across all phases (Tashakkori & Teddlie, 1998). The exploration in this paper is driven by these questions: What rationales do HRD/AE researchers provide for using mixed methods in their projects? In the absence of explicit rationales, what justifications are evident for using mixed methods? The paper is divided into a discussion of mixed methods, the use of mixed methods in HRD, and the use of mixed methods in AE. The paper concludes by sharing implications for HRD/AE, observations, and suggestions to enhance mixed methods use.

Mixed Methods

Greene and Caracelli (1997) argue that "using multiple and diverse methods is a good idea, but is not automatically good science" (p. 5). Mixed methods proponents across the wide field of education share the goal of conducting good social science. Good research design addresses the intertwined political, philosophical, and technical levels of decision-making (Greene & Caracelli, 1997). At the political level decisions are made about values, purpose and place of a study within society. At the philosophical level paradigms and assumptions are identified. The technical level encompasses the procedures used to collect and analyze data.

At the political level broad value based questions about the purpose and role of research in society are addressed (Greene & Caracelli, 1997). At this level, choices are made regarding what should be researched and what should be done with the research. Scholars do not generally acknowledge the power structure within which they make their research design decisions. Mainstream discourse in HRD/AE research seldom explicitly provides evidence of political level decision-making. Although not explicit, political level decision-making is evident in regards to what research gets funded.

At the philosophical level, mixed methods are predicated on reaping the benefits of what can legitimately be learned about the social world using appropriate methods from multiple paradigms. The *pragmatic position* for such mixing, calls for answering all methodological questions according to which method(s) best meet the practical demands of a particular inquiry (Patton, 1988). The *dialectical position* advocated by Greene and Caracelli calls for conducting inquiry that is shaped by employing both post positivist and constructivist paradigms. If, in a research project, issues such as particularity and generality are addressed from within each of these paradigms, then in the end, more can be known about both specific participants and the larger social context they share with others. Such research will better reflect social realities by including more perspectives.

Technical level concerns were addressed in detail in Greene, Caracelli and Graham's (1989) empirically based theoretical framework for conducting rigorous, useful evaluation projects. Their framework has five distinct purposes: triangulation, complementarity, development, initiation, and expansion. The first purpose, *triangulation,*

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strives to develop a more focused understanding of a particular phenomenon through convergence of different methods examining the same phenomenon. Triangulation increases construct and inquiry result validity by using both qualitative and quantitative methods to counteract researcher, method, theoretical and other possible research biases. *Complementarity* seeks elaboration using the results from one data collection method to help clarify the results of the other. Generally, different aspects or levels of a phenomenon are examined. Complementarity enhances validity and interpretability by building on inherent method strengths and acting against method and other research biases. *Development* is sequential using the results of one of the methods in order to inform the other(s). The phenomenon under study may be the same, or similar. Development builds on inherent method strengths in order to increase construct and inquiry validity. *Initiation* may evolve as the study progresses, when findings of qualitative and quantitative methods seem contradictory, or be planned into the research design. Initiation deepens the inquiry, often by recasting the research question and thus developing a fresh perspective. Phenomena may be studied in order to better understand the phenomenon originally under study. Unlike any of the other purposes, initiation encourages inquiry using differing paradigms and perspectives in order to deepen and widen inquiry results and interpretations. *Expansion* widens the scope of the inquiry by adding multiple components to a single study allowing for investigation of a broad range of phenomena and using differing qualitative and quantitative methods. The rationale for selecting multiple appropriate methods is to extend the inquiry.

Individuals' pragmatic decisions to mix qualitative and quantitative methods either sequentially or simultaneously within their research projects are leading to a number of "mixed method" studies, although, this label is not always applied in HRD/AE research. Tashakkori and Teddlie (1998) are prominent among those social scientists calling for more clarity in delineating the characteristics of these studies, and of employing more qualitatively/quantitatively integrated "mixed model" studies. Their underlying philosophical assumption is that these two practices will enhance the quality of educational research and make it more accurate and useful.

Addressing technical level concerns in detail, Tashakkori and Teddlie's (1998) mixed models typology is driven by its exploratory or confirmatory purpose. Model designations are based on the particular qualitative and/or quantitative nature of research components or stages. They identify three especially relevant stages: data collection, analysis, and inference. Three types begin with quantitative data (Types III, V, and VI) and three types with qualitative data (Types I, II, and IV). Types I, II, and V are more confirmatory and deductive in inference - testing *a priori* predictions or hypotheses. Types III, IV and VI are more inductive and exploratory. Two larger scale mixed model types may have both exploratory and confirmatory phases. Type VII *parallel mixed model* studies mix qualitative and quantitative within at least one of the stages. In Type VIII *sequential mixed model* studies, the three relevant stages are completed in distinct phases. One phase builds on the results of the last and mixing occurs across phases.

For these pragmatists when to mix and what roles the researcher can and should play in his or her research project should be informed by two considerations: general pragmatic guidelines and the research question. According to Tashakkori and Teddlie (1998), the guidelines value *both* inductive and deductive reasoning and *both* objective and subjective points of view. Decisions about which line of reasoning is called for depend on the specific point in the research process. For pragmatists, decisions about when to be inductive and collect more data to see what generalizations may be drawn from them or when to be deductive and ascertain if a particular piece of data fits a known generalization are ongoing in a research project. Pragmatic educational researchers are comfortable turning to qualitative methods to explore phenomena and to propose some level of generalization (i.e. these are patterns in the data) and quantitative methods to confirm that these particular pieces of data do indeed fit some known pattern/generalization. There is recognition among such researchers that any particular research project may well involve both paths of reasoning in order to fully respond to the research question.

After being introduced to the mixed methods literature, the question became how do HRD and Adult Education researchers use qualitative and quantitative methods in the same study? HRD literature was reviewed searching for references to mixed methods the few found are discussed below. A snapshot of the use of mixed methods in HRD research is provided by examining articles published in volume 11 of HRDQ for instances of mixing methods.

Use of Mixed Methods in Human Resource Development

Human resource development is an applied field primarily concerned with identifying and implementing interventions in the workplace. Interventions can occur at individual, group, and organizational levels to increase workplace learning and productivity. In human resource development mixed methods studies are rarely supported by literature from the mixed methods field. This lack of acknowledgement extends to meta analyses of research practice. For example, Williams (2001) conducted a review of research methods to determine if the field of human resource development (HRD) was following a similar developmental pattern to management science. Even though

she clearly states an interest in statistical methods only, her analysis notes the use of qualitative methods. Strikingly, there is no mention of mixed methods. Hixon and McClernon (1999) examined a wide range of HRD literature published in 1997, classifying the literature by using four types of research and "two tools (i.e., qualitative and quantitative)" (p. 899). Hixon and McClernon placed all of the articles and papers in two categories--qualitative or quantitative and ignored the possibility of a category of mixed methods.

Hardy (1999) examined the methodological appropriateness of papers presented at the 1997 and 1998 Academy of Human Resource Development conference. After setting the stage for the inclusion of mixed method studies through his discussion of hybrid designs, his findings are only discussed in terms of the dichotomy of qualitative/quantitative categories instead of the continuum possible when using hybrid designs or mixed methods.

He states that qualitative and quantitative methods "are not mutually exclusive but can be viewed as inter-dependent" (p. 880). For Hardy, the role of qualitative methods is to develop new theory, expand conceptual frameworks, and enhance understanding of social realities while quantitative methods should be used to test and generalize theory. The qualitative/quantitative linkage though a "hybrid" [mixed] design demonstrates the interactivity and inter-dependence of these components of reflective inquiry. Hybrid designs utilize the strengths of both types and "can supplement and compliment the strength of design and general robustness of the findings" (Hardy, 1999, p. 881). He states the ultimate usefulness of hybrid designs is dependent on the comparative relationships of the results, conclusions, and contributions to the field, yet he advocates only the use of multivariate studies to mature the field.

These reviews revealed that a general lack of awareness of mixed methods and the literature base that supports it are common in the field of HRD. In a related example, in the HRD research handbook there is no mention of mixed methods (Swanson & Holton, 1997). The chapter on qualitative methods includes a discussion of appropriate uses of qualitative methods as explaining statistical findings, developing quantitative instruments, and strengthening quantitative studies (Swanson, Watkins, and Marsick, 1997). These technical uses for mixing methods are not explored. The chapter on quantitative methods is not concerned with the appropriate use of quantitative methods but does mention that both methods (qualitative and quantitative) are powerful when used together (Holton & Burnett, 1997). Political, philosophical, and technical rationales (Greene & Caracelli, 1997) for using mixed methods are missing from the research inquiry literature of HRD. The research studies discussed in this segment include two papers using mixed methods literature and four articles using mixed methods without regard to the literature.

May (1999) and Nurmi (1999) used the mixed methods literature to support their research design decisions. May (1999) advocated using qualitative methods in transfer of training research. The study developed and tested a theory-based practice protocol and its effect on learning and transfer of learning. The quantitative component included a pretest-posttest control group design. Data on dependent measures were collected using a free-recall test, rating videotaped role-plays using a criterion checklist, and a 360-degree survey instrument. ANCOVA conducted on each dependent measure indicated significant difference between groups. Learning in both groups did not meet acceptable levels in terms of practical significance. The qualitative component included semi structured interviews of 36 of the 38 participants. The responses were coded and categorized according to underlying concepts. May's purpose was to use the qualitative data to "illuminate quantitative data" (1999, p. 1108) and to use this study to support the pragmatic approach when making methodological decisions. Using Tashakkori and Teddlie's model (1998) this study is Type VIII - a sequential mixed method - the quantitative and qualitative data collection and analysis phases appear separate. The decision-making about research design appears to be at the technical level (Greene & Caracelli, 1997).

Nurmi (1999) used mixed methods to evaluate an industrial development program in Finland. The research design decision-making is philosophically based using Greene & Caracelli (1997) (among others) to support mixing paradigms as well as methods. Nurmi writes, "these paradigms were seen as complementary choices rather than competing methodological schools" (p. 554). An HRD program for new hires in a paper mill was evaluated using post positivist quantitative surveys and multivariate analysis and naturalistic methods such as interviews and journals. Nurmi's study demonstrated complementarity (Greene, Caracelli, & Graham, 1989) and consciously used mixed methods "to reach a deeper understanding" (p. 556).

Wentling and Palma-Rivas (2000) surveyed multinational organizations on the status of diversity initiatives, the dimensions of the initiatives, and the dynamics of corporate responses. Data collection used semi-structured interviews and document analysis with a sample of 8 randomly selected diversity managers. Interviews were content analyzed with emergent themes ranked by their frequency. Wentling and Palma-Rivas used quantitative data "to provide basic research evidence, while qualitative data were used to round out the picture and provide examples" (p. 40). Qualitative data were used for statistical inference as in a Type IV design (Tashakkori & Teddlie, 1998)

Stein, Rocco, and Goldenetz (2000) conducted an instrumental case study using the embedded single-case study design to examine the phenomenon of aging workers in a university setting. Qualitative and quantitative data were

collected. Structured interviews were used to enhance descriptive statistics obtained from documents produced and maintained by the human resource and training departments. Without mention to the mixed methods literature, the authors identified triangulation as the rationale for using quantitative and qualitative data sources (Patton, 1990; Yin, 1994). Data analysis used two qualitative methods: grounded theory and comparative analysis by question.

Osman-Gani (2000) explored issues of expatriate development by multinational companies. Mixed methods were used for instrument refinement. Responses to an open-ended interview schedule based on the expatriate literature were used to develop a structured survey instrument. This is an example of development (Greene, Caracelli and Graham, 1989) where the results of the open-ended interview schedule were used to develop a structured survey instrument. A panel of experts also reviewed the survey "to verify the content, sequence, structure, and relevance of questionnaire items" (p. 219). The survey was pilot tested on a sample of 40 expatriates before being sent to the population of expatriates in Singapore. No information was provided about administration of the interview.

Callahan (2000) conducted a case study of non-profit organization members' purposes for managing their experience and expression of emotion. Data was collected using individual interviews, observations, surveys, and document analysis. Multiple methods of data collection were used for validity through triangulation (Patton, 1990). Callahan identified the study as "primarily qualitative...based on a naturalistic design" (p. 251). Data analysis of the interviews and correspondence used codes constructed from theory as the primary coding scheme. Within a primary code, open coding was used to arrive at broad concepts within a constructed code. Themes emerged within the primary coded categories. ANOVAs were conducted on the survey data to ensure that the larger surveyed sample was not significantly different from the interviewed and surveyed sample. This is an example of Type IV mixed method model (Tashakkori and Teddlie, 1998) or naturalistic inquiry, which collects qualitative data and statistically analyzed it.

Additionally colleagues familiar with the theory being explored coded a data set to establish internal validity. Seven scholars reviewed the findings and interpretations for consistency. Four participant researchers reviewed the final document for accuracy of interpretation. Even though Callahan described this study as primarily qualitative, she took many quantitative steps to ensure reliability and validity of the findings.

Of the six studies examined here only two (May, 1999; Nurmi, 1999) used the theoretical framework provided by the field of mixed methods. Without similar attribution, the other four studies used mixed methods to enhance evidence, (Wentling & Palma-Rivas, 2000), for triangulation (Stein, Rocco, & Goldenetz, 2000), for triangulation and to ensure integrity (Callahan, 2000), and for instrument refinement (Osman-Gani, 2000). The decisions to use mixed methods were apparently pragmatic and at the technical level.

The snapshot provided here demonstrates that mixing methods is being done to strengthen HRD research designs. So far the research design decisions are pragmatic and without regard to the growing inquiry literature on mixed methods. The snapshot of mixed methods in adult education parallels the findings in HRD. A hand search of Adult Education Quarterly produced the articles discussed below.

Use of Mixed Methods in Adult Education

In 1984 Brookfield issued a challenge to adult education researchers to examine their "methodolatory" processes of generating knowledge. He critiqued researchers for their over reliance on "the adoption of strictly defined and tightly administered quantitative measures in the investigation of self-directed learning" (p. 65). The principle text on adult education research reflects the momentum gained by qualitative research designs (Merriam & Simpson, 2000). Merriam and Simpson (2000) include one chapter on quantitative research, two chapters on qualitative research, and no chapters on mixed methods in their updated version of *A Guide to Research for Educators and Trainers of Adults*. They affirm "both types of data [quantitative and qualitative] are useful in the process of systematic inquiry related to adult education and training" (p. 147). They suggest that content analysis can be approached using both quantitative and qualitative methods. Merriam and Simpson, however, are silent on how quantitative and qualitative data collection and data analysis can be meaningfully mixed in the same study.

An examination of articles from the Adult Education Quarterly provide evidence of mixed methods in adult education research and a continuing silence on rationales for its use. It is striking to note that very few authors identify their work as mixed methods in either the abstract or the method section of the article. For example, Cervero, Rottet, and Dimmock (1996) indicated they used both qualitative and quantitative data to evaluate a nursing continuing education program but they did not identify a rationale for the use of historically polarized approaches. The authors cited in this section reflect the evolution in research development that supersedes the quantitative – qualitative polarity. As Tashakkori and Teddlie (1998) wrote, "most researchers now use whatever method is appropriate for their studies, instead of relying on one method exclusively" (p. 5-6).

Identifying the research design according to the mixed method typology Tashakkori and Teddlie (1998) delineated can enhance adult education research by locating the research within a pragmatic paradigm, justifying the use of mixed methods, and clarifying their use in the various stages of research (ie., sampling, data collection, data analysis, inference, etc.). Identifying the mixed method design as described by Tashakkori and Teddlie (1998) can enhance the "good science" quality of the research by reducing the conceptual confusion associated with mixing qualitative and quantitative approaches as evidenced in the following examples.

Gordon and Sork (2001) approximately replicated an earlier study about adult education practitioners' views on the need for a code of ethics. The survey methodology they employed included both closed-ended and open-ended questions. The answers to the closed-ended questions were statistically analyzed using descriptive statistics, chi-square tests, and one-way analysis of variance tests. "Responses to open-ended questions were categorized and frequency counts made for each category" (p. 206). The results of the study included both findings of statistical significance and descriptions of ethical situations encountered by practitioners. Gordon and Sork (2001) used both quantitative and qualitative approaches. Using Tashakkori and Teddlie's model (1998), this study is a parallel mixed model study or Type VII. Two stages of the investigation, data collection and data analysis, used both approaches. The research design, data collection, and analysis used by Gordon and Sork demonstrated research design ruled by "the dictatorship of the question" (Tashakkori & Teddlie, 1998, p. 167).

Cervero, Rottet, and Dimmock (1996) tested a framework for the relationship between nursing continuing education and job performance. Cervero et.al. (1996) used quantitative and qualitative data collection and analysis. A 74-item quality assurance review was used to score the dependent variable and rating scores for the independent variables were taken. An analysis of variance was conducted. The qualitative data collection "asked the nurses in the hospital to give [their] explanations for the [statistical] findings" (Cervero, et.al., 1996, p. 82). Three themes emerged and were supported by the data from questionnaires and groups. Using Tashakkori and Teddlie's typology, the study conducted by Cervero et.al., (1996) was Type VIII or a sequential mixed model study. The study had two distinct phases, one with quantitative inquiry and operations, and one with qualitative inquiry and analysis. Cervero et. al. successfully "combined experimental procedures with qualitative data collection and inference" (Tashakkori & Teddlie, 1998, p. 154).

Boshier (1991) tested the validity of a motivation scale using both qualitative and quantitative data collection. Quantitative data were collected and statistically analyzed to determine predictive validity. The author gave no references for including the qualitative component and did not justify its insertion in the study. The use of qualitative data collection (i.e., interviewing) assisted Boshier in developing additional motivational test items that he later validated and used to predict outcomes. The study clearly used "what worked" to answer the question without an articulated theoretical framework. Tashakkori and Teddlie's Type VIII sequential mixed model describes the process employed by Boshier. In Boshier's study, the mixing occurred during the data collection phase. The first phase collected qualitative data to generate test items that were used in the succeeding quantitative phase. In this complex mixed method design, the quantitative phase was designed to explore the issues raised in the previous qualitative phase (Tashakkori & Teddlie, 1998).

A study by Courtenay, Merriam, Reeves, and Baumgartner (2000) was a subtle variation of a mixed method study that was driven by research questions. In this study, the authors interviewed members from a sample they studied two years previously to see if their perspective transformation was stable and to identify ways they continued to make meaning in their lives. The authors identified the follow-up study of adults with HIV as qualitative and primarily inductive; however, one part of their study was to test Mezirow's (1991) theory that perspective transformation was stable. They used Glaser and Strauss to justify the insertion of a quantitative approach (Courtney, et. al., 2000). Like Tashakkori and Teddlie, Glaser and Strauss did not see a "fundamental clash between the purposes and capacities of qualitative and quantitative methods or data...Primacy depends only on the circumstances of research" (Courtney, et. al., 2000, p. 106). Tashakkori and Teddlie's pragmatic paradigm offers a rationale for inserting a quantitative component into a qualitative dominant study. They articulate the Dominant-Less Dominant mixed method design as a means to answer research questions within a consistent paradigm and yet include all necessary information (Tashakkori & Teddlie, 1998).

Some of the articles reviewed predate the literature on mixing methods yet show evidence of the use of mixed methods to answer research questions. Shipp & Mckenzie (1981) used both quantitative and qualitative design in their study of demographic and psychographic characteristics of adult learners and non-learners. Quantitative data was collected through structured indirect interviews and analyzed statistically. A qualitative summary or demographic profile was written for the learner and the non-learner. This study reversed the usual trend of quantifying qualitative data and qualitatively analyzed quantitative information. The authors did not identify their use of mixed methods in their abstract or methods section. Tashakkori and Teddlie articulate this type of mixed method study as a Type VI. In Type VI studies, quantitative data collection precedes qualitative analysis and

inference. Shipp and Mckenzie (1981) used quantitative data to create profiles of adult learners and non-learners. The design effectively answered their research questions and illustrated the use of "what works" before the mixed method approach was articulated (Tashakkori & Teddlie, 1998).

These examples of adult education research highlighted the silent use of mixed method design to answer research questions. The studies reviewed here successfully addressed their research question by using "what works" to increase the power of their conclusions. The precision of differentiating the data collection phase and the data analysis phase is more visible when the mixed method research design is utilized. Articulating the mixed method design and clarifying the various stages in which mixed methods were used can strengthen the power of studies. A systematic approach, such as using an explicitly mixed method research design, can empower researchers to justify their use of alternative methods and clarify each step of the research process. Tashakkori and Teddlie's (1998) articulation of the pragmatic paradigm and delineation of mixed method models will aid future adult education researchers to maximize the power of their inferences and conclusions.

Implications for HRD/AE Research

Little explicit discussion of research design decision-making or theoretical support for mixing design components was observed in the examples used in this paper. This lack of seemingly informed decision-making often included a lack of information on specific techniques used in a study. The authors may have had sound rationales for their choices but this level of detail did not make it into the method sections of their articles. This has larger implications for HRD as a field as we strive to have our research taken seriously by other disciplines.

Many research questions and topics of interest lend themselves to mixed methods approaches. Yet we lack training in using mixed methods in all but the most rudimentary ways (e. g. triangulation). There is a need for research courses that demonstrate quantitative and qualitative data collection and analysis techniques, followed by instruction in how and when to mix methods in the various stages of a research design. Hopefully, this will lead to a greater sophistication when making thoughtful design decisions at the technical level and encourage design decisions to be made at the philosophical and political levels.

In conclusion, much of the HRD/AE research reports we reviewed in the literature today do not discuss the broader philosophical and political level decisions that ultimately shape research agendas. They confine their discussions concerning research design and data interpretation to descriptions of technical level decisions about "methods and procedures" (Greene & Caracelli, 1997, p.6). Appropriate journals should encourage the inclusion of such discussions in research submitted for publication.

We note that researchers such as Greene, Caracelli, Tashakkori, Teddlie, and others are beginning to seriously address educational research's larger philosophical and political level decisions. We likewise support Greene and Caracelli's admonition that to be doing good science, researchers using mixed methods must begin to more thoughtfully address the broader level decisions. To use Greene and Caracelli's (1997) term, on the political level, these researchers should be seeking the development of a body of strong, defensible research about HRD and adult education. Mixed method advocates should be leading the academic discussions about the ontological and epistemological issues of what can be known about "the social world and our ability to know" (Greene & Caracelli, p. 5). As Greene and Caracelli have pointed out, "The underlying rationale for mixed-method inquiry is to understand more fully, to generate deeper and broader insights, to develop important knowledge claims that respect a wider range of interests and perspectives" (1997, p.7). Mixed methods research that emerges from this discourse has the potential to be more useful to people making policy decisions about HRD and adult education and society.

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